

AMENDED IN ASSEMBLY AUGUST 20, 2012

AMENDED IN ASSEMBLY AUGUST 7, 2012

AMENDED IN ASSEMBLY JUNE 19, 2012

AMENDED IN SENATE APRIL 16, 2012

AMENDED IN SENATE APRIL 9, 2012

**SENATE BILL**

**No. 1298**

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**Introduced by Senator Padilla**

February 23, 2012

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An act to add Division 16.6 (commencing with Section 38750) to the Vehicle Code, relating to vehicles.

LEGISLATIVE COUNSEL'S DIGEST

SB 1298, as amended, Padilla. Vehicles: autonomous vehicles: safety and performance requirements.

Existing law requires the Department of the California Highway Patrol to adopt rules and regulations that are designed to promote the safe operation of specific vehicles, including, among other things, schoolbuses and commercial motor vehicles. Existing law also requires the Department of Motor Vehicles to register vehicles that are being operated in this state and to issue a license plate to an applicant for the operation and identification of that person's vehicle.

This bill would authorize the operation of an autonomous vehicle, as defined, on public roads, by a driver who possesses the proper class of license for the type of vehicle being operated, or without the presence of a driver inside the vehicle, if an application is submitted to the Department of Motor Vehicles and specified conditions are met. *The department would be authorized to charge a fee for the application in*

*an amount necessary to recover all costs reasonably incurred by the department.* In cases in which the autonomous vehicle is to be operated on public roads for testing purposes, the bill would require, among other things, that the driver be seated in the driver's seat, monitoring the safe operation of the autonomous vehicle, and capable of taking over immediate manual control of the autonomous vehicle in the event of an autonomous technology failure or other emergency. To otherwise operate an autonomous vehicle on public roads, the bill would require the manufacturer of the autonomous technology to provide an autonomous vehicle that satisfies specific criteria. If there is no person in the driver's seat, the operator is the person who causes the autonomous technology to engage in the vehicle, and the bill would authorize the department to impose additional requirements it deems necessary to ensure the safe operation of that vehicle. The bill would require that the autonomous vehicle's technology meets ~~federal~~ *Federal* Motor Vehicle Safety Standards for the vehicle's model year and all other applicable safety standards and performance requirements set forth in state and federal law and the regulations promulgated pursuant to those laws.

The bill would require, prior to January 1, 2014, that the Department of Motor Vehicles adopt regulations setting forth requirements for the submission and approval of an application to operate an autonomous vehicle, including any testing standards, as specified, and to hold public hearings on the adoption of any regulation applicable to the operation of an autonomous vehicle without the presence of a driver inside the vehicle. The bill would provide that federal regulations promulgated by the National Highway Traffic Safety Administration supersede state law or regulation when found to be in conflict. The bill would also require the department to notify the Legislature of the receipt of an application from a manufacturer seeking approval to operate an autonomous vehicle capable of operating without the presence of a driver inside the vehicle and the approval of the application. The bill would provide that approval of the application is effective no sooner than 180 days after the date the application is submitted.

Vote: majority. Appropriation: no. Fiscal committee: yes.  
State-mandated local program: no.

*The people of the State of California do enact as follows:*

1     *SECTION 1. The Legislature finds and declares all of the*  
2     *following:*

3     *(a) Development is actively under way of new technology that,*  
4     *through the use of computers, sensors, and other systems, permits*  
5     *a motor vehicle to operate without the active control and*  
6     *continuous monitoring of a human operator. Motor vehicles with*  
7     *this technology, referred to as “autonomous vehicles,” offer*  
8     *significant potential safety, mobility, and commercial benefits for*  
9     *individuals and businesses in the state and elsewhere.*

10    *(b) Autonomous vehicles have been operated safely on public*  
11    *roads in the state in recent years by entities developing and testing*  
12    *this technology.*

13    *(c) The State of California, which presently does not prohibit*  
14    *or specifically regulate the operation of autonomous vehicles,*  
15    *desires to encourage the current and future development, testing,*  
16    *and operation of autonomous vehicles on the public roads of the*  
17    *state. The state seeks to avoid interrupting these activities while*  
18    *at the same time creating appropriate rules intended to ensure*  
19    *that the testing and operation of autonomous vehicles in the state*  
20    *are conducted in a safe manner.*

21    *(d) Toward that end, the Legislature finds it appropriate to*  
22    *authorize the establishment of specific safety requirements for the*  
23    *testing and operation of autonomous vehicles, and to require that*  
24    *future testing and operation of autonomous vehicles in the state*  
25    *comply with those requirements.*

26     **SECTION 1.**

27     **SEC. 2.** Division 16.6 (commencing with Section 38750) is  
28     added to the Vehicle Code, to read:

29  
30             **DIVISION 16.6. AUTONOMOUS VEHICLES**

31  
32     ~~38750. The Legislature finds and declares all of the following:~~

33     ~~(a) Development is actively under way of new technology that,~~  
34     ~~through the use of computers, sensors, and other systems, permits~~  
35     ~~a motor vehicle to operate without the active control and continuous~~  
36     ~~monitoring of a human operator. Motor vehicles with this~~  
37     ~~technology, referred to as “autonomous vehicles,” offer significant~~

1 potential safety, mobility, and commercial benefits for individuals  
2 and businesses in the state and elsewhere.

3 ~~(b) Autonomous vehicles have been operated safely on public~~  
4 ~~roads in the state in recent years by entities developing and testing~~  
5 ~~this technology.~~

6 ~~(c) The State of California, which presently does not prohibit~~  
7 ~~or specifically regulate the operation of autonomous vehicles;~~  
8 ~~desires to encourage the current and future development, testing,~~  
9 ~~and operation of autonomous vehicles on the public roads of the~~  
10 ~~state. The state seeks to avoid interrupting these activities while~~  
11 ~~at the same time creating appropriate rules intended to ensure that~~  
12 ~~the testing and operation of autonomous vehicles in the state are~~  
13 ~~conducted in a safe manner.~~

14 ~~(d) Toward that end, the Legislature finds it appropriate to~~  
15 ~~authorize the establishment of specific safety requirements for the~~  
16 ~~testing and operation of autonomous vehicles, and to require that~~  
17 ~~future testing and operation of autonomous vehicles in the state~~  
18 ~~comply with those requirements.~~

19 ~~38751.~~

20 38750. (a) For purposes of this division, the following  
21 definitions apply:

22 (1) “Autonomous technology” means technology that has the  
23 capability to drive a vehicle without the active physical control or  
24 monitoring by a human operator.

25 (2) (A) “Autonomous vehicle” means any vehicle equipped  
26 with autonomous technology that has been integrated into that  
27 vehicle.

28 (B) An autonomous vehicle does not include a vehicle that is  
29 equipped with one or more collision avoidance systems, including,  
30 but not limited to, electronic blind spot assistance, automated  
31 emergency braking systems, park assist, adaptive cruise control,  
32 lane keep assist, lane departure warning, traffic jam and queuing  
33 assist, or other similar systems that enhance safety or provide driver  
34 assistance, but are not capable, collectively or singularly, of driving  
35 the vehicle without the active control or monitoring of a human  
36 operator.

37 (3) An “operator” of an autonomous vehicle is the person who  
38 is seated in the driver’s seat, or if there is no person in the driver’s  
39 seat, causes the autonomous technology to engage.

1 (4) (A) A “manufacturer” of autonomous technology is the  
2 person as defined in Section 470 that originally manufactures a  
3 vehicle and equips autonomous technology on the originally  
4 completed vehicle or, in the case of a vehicle not originally  
5 equipped with autonomous technology by the vehicle manufacturer,  
6 the person that modifies the vehicle by installing autonomous  
7 technology to convert it to an autonomous vehicle after the vehicle  
8 was originally manufactured.

9 ~~(B) If the vehicle was not originally equipped with autonomous~~  
10 ~~technology by the vehicle manufacturer, a person may modify the~~  
11 ~~vehicle by installing autonomous technology that converts that~~  
12 ~~vehicle into an autonomous vehicle. It is the intent of the~~  
13 ~~Legislature that current law governing the conversion of vehicles~~  
14 ~~originally manufactured by a third party shall control issues of~~  
15 ~~liability arising from the operation of the autonomous vehicle if~~  
16 ~~that vehicle was converted by an autonomous technology~~  
17 ~~manufacturer. It is not the intent of the Legislature to relieve an~~  
18 ~~original equipment manufacturer (OEM) from liability under~~  
19 ~~existing law where the OEM has participated in or facilitated the~~  
20 ~~adaptation of the vehicle to autonomous technology. Further, it is~~  
21 ~~not the intent of the Legislature that the enactment of this division,~~  
22 ~~establishing requirements for the testing and operation of an~~  
23 ~~autonomous vehicle that has been converted after the vehicle was~~  
24 ~~originally manufactured, makes the conversion of that vehicle a~~  
25 ~~reasonably foreseeable occurrence to the original manufacturer of~~  
26 ~~that vehicle. Enactment of this division imposes no additional duty,~~  
27 ~~or additional liability, on an original manufacturer of a vehicle that~~  
28 ~~is converted to an autonomous vehicle by an autonomous vehicle~~  
29 ~~manufacturer other than the original manufacturer of that vehicle.~~

30 (b) An autonomous vehicle may be operated on public roads  
31 by a driver who possesses the proper class of license for the type  
32 of vehicle being operated if either of the following applies:

33 (1) The autonomous vehicle is being operated on roads in this  
34 state solely by employees, contractors, or other persons designated  
35 by the manufacturer of the autonomous technology for testing  
36 purposes. The driver shall be seated in the driver’s seat, monitoring  
37 the safe operation of the autonomous vehicle, and capable of taking  
38 over immediate manual control of the autonomous vehicle in the  
39 event of an autonomous technology failure or other emergency.  
40 Prior to the start of testing in this state, the person performing the

1 testing shall obtain an instrument of insurance, surety bond, or  
2 proof of self-insurance as specified in regulations adopted by the  
3 Department of Motor Vehicles pursuant to paragraph (1) of  
4 subdivision (d), in the amount of five million dollars (\$5,000,000).

5 (2) The manufacturer of the autonomous technology provides  
6 all of the following:

7 (A) The autonomous vehicle has a mechanism to engage and  
8 disengage the autonomous technology that is easily accessible to  
9 the operator.

10 (B) The autonomous vehicle has a visual indicator inside the  
11 cabin to indicate when the autonomous technology is engaged.

12 (C) The autonomous vehicle has a system to safely alert the  
13 operator if an autonomous technology failure is detected while the  
14 autonomous technology is engaged, and when an alert is given,  
15 the system shall do either of the following:

16 (i) Require the operator to take control of the autonomous  
17 vehicle.

18 (ii) If the operator does not or is unable to take control of the  
19 autonomous vehicle, the autonomous vehicle shall be capable of  
20 coming to a complete stop.

21 (D) The autonomous vehicle shall allow the operator to take  
22 control in multiple manners, including, without limitation, through  
23 the use of the brake, the accelerator pedal, or the steering wheel,  
24 and it shall alert the operator that the autonomous technology has  
25 been disengaged.

26 (E) The autonomous vehicle's autonomous technology meets  
27 Federal Motor Vehicle Safety Standards for the vehicle's model  
28 year and all other applicable safety standards and performance  
29 requirements set forth in state and federal law and the regulations  
30 promulgated pursuant to those laws.

31 (F) The autonomous technology does not make inoperative any  
32 Federal Motor Vehicle Safety Standards for the vehicle's model  
33 year and all other applicable safety standards and performance  
34 requirements set forth in state and federal law and the regulations  
35 promulgated pursuant to those laws.

36 (G) The autonomous vehicle has a separate mechanism, in  
37 addition to, and separate from, any other mechanism required by  
38 law, to capture and store the autonomous technology sensor data  
39 for at least 30 seconds before a collision occurs between the  
40 autonomous vehicle and another vehicle, object, or natural person

1 while the vehicle is operating in autonomous mode. The  
2 autonomous technology sensor data shall be captured and stored  
3 in a read-only format by the mechanism so that the data is retained  
4 until extracted from the mechanism by an external device capable  
5 of downloading and storing the data. The data shall be preserved  
6 for three years after the date of the collision.

7 (c) Except as provided in paragraph (1) of subdivision (b), an  
8 autonomous vehicle may not be operated on public roads unless  
9 the manufacturer first submits an application to the Department  
10 of Motor Vehicles that contains, at a minimum, all of the following:

11 (1) A certification by the manufacturer that the autonomous  
12 technology meets all of the requirements of paragraph (2) of  
13 subdivision (b).

14 (2) A certification that the manufacturer has tested the  
15 autonomous technology on public roads and has complied with  
16 the testing standards, if any, established by the Department of  
17 Motor Vehicles pursuant to paragraph (1) of subdivision (d).

18 (3) A certification that the manufacturer will maintain a surety  
19 bond, or proof of self-insurance as specified in regulations adopted  
20 by the Department of Motor Vehicles pursuant to paragraph (1)  
21 of subdivision (d), in an amount of five million dollars  
22 (\$5,000,000).

23 (d) Prior to January 1, 2014, the Department of Motor Vehicles  
24 shall adopt regulations setting forth requirements for the submission  
25 and approval of an application to operate an autonomous vehicle  
26 pursuant to this division and shall hold public hearings on the  
27 adoption of any regulation applicable to the operation of an  
28 autonomous vehicle without the presence of a driver inside the  
29 vehicle. The regulations shall include any testing standards, in  
30 addition to those established by paragraph (1) of subdivision (b),  
31 developed by the Department of the California Highway Patrol  
32 (CHP), the Institute of Transportation Studies at the University of  
33 California, or any other entity chosen by the department that has  
34 expertise in automotive technology, automotive safety, and  
35 autonomous system design; that the department approves and  
36 concludes are necessary to ensure the safe operation of autonomous  
37 vehicles on public roads. The department may establish additional  
38 requirements by the adoption of regulations, which it determines,  
39 in consultation with the CHP, are necessary to ensure the safe  
40 operation of autonomous vehicles on public roads, including

1 regulations regarding the number of deployments of autonomous  
2 vehicles on public roads.

3 (e) The Department of Motor Vehicles shall approve an  
4 application submitted by a manufacturer pursuant to subdivision  
5 (c) upon verification that the manufacturer has submitted test  
6 results demonstrating that the autonomous vehicles are safe to  
7 operate on public roads. Notwithstanding the foregoing, if the  
8 application seeks approval for autonomous vehicles capable of  
9 operating without the presence of a driver inside the vehicle, the  
10 department may impose additional requirements it deems necessary  
11 to ensure the safe operation of those vehicles, and may require the  
12 presence of a driver in the driver's seat of the vehicle if it  
13 determines, based on its review of the testing conducted by the  
14 manufacturer, that such a requirement is necessary to ensure the  
15 safe operation of those vehicles on public roads. The Department  
16 of Motor Vehicles shall notify the Legislature of the receipt of an  
17 application from a manufacturer seeking approval to operate an  
18 autonomous vehicle capable of operating without the presence of  
19 a driver inside the vehicle and approval of the application.  
20 Approval of the application shall be effective no sooner than 180  
21 days after the date the application is submitted.

22 (f) Nothing in this division shall limit or expand the existing  
23 authority to operate autonomous vehicles on public roads, until  
24 120 days after the Department of Motor Vehicles adopts the  
25 regulations authorized by this subdivision.

26 (g) Federal regulations promulgated by the National Highway  
27 Traffic Safety Administration shall supersede the provisions of  
28 this division when found to be in conflict with any other state law  
29 or regulation.

30 (h) The manufacturer of the autonomous technology installed  
31 on a vehicle shall provide a written disclosure to the purchaser of  
32 an autonomous vehicle that describes what information is collected  
33 by the autonomous technology equipped on the vehicle. *The*  
34 *Department of Motor Vehicles may promulgate regulations to*  
35 *assess a fee upon a manufacturer that submits an application*  
36 *pursuant to subdivision (c) to operate autonomous vehicles on*  
37 *public roads in an amount necessary to recover all costs*  
38 *reasonably incurred by the department.*

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